

ARCHAEOMAGNETIC RESULTS FROM FINNISH BRICKS AND POTSDHERDS

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The thermoremanent magnetization (TRM) of ceramic artifacts (e.g. bricks and potsherds) provides a tool by which the intensity and sometimes also the direction of the geomagnetic field during the last several thousand years can be studied. Archaeomagnetic data have several archaeological applications including the possible use as a dating technique (Michael and Ralph, 1971).

In this study bricks from Espoo's and Kirkkonummi's churches and from castles of Kastelholma and Häme, and also some potsherds from South Finland have been investigated in the newly established archaeomagnetic laboratory of the Geological Survey of Finland. The bricks range in age from 1900—1300 A.D., and the ages of the sherds are 0—500 B.C. and 3500—3700 B.C., respectively.

The technique used in the archaeomagnetic studies is based on the fact that the TRM of the sample is proportional to the intensity of the geomagnetic field acting on the sample while it cools through the Curie points of magnetic minerals in the sample when they are fired. By comparing the strength of the TRM of the sample with the value ac-

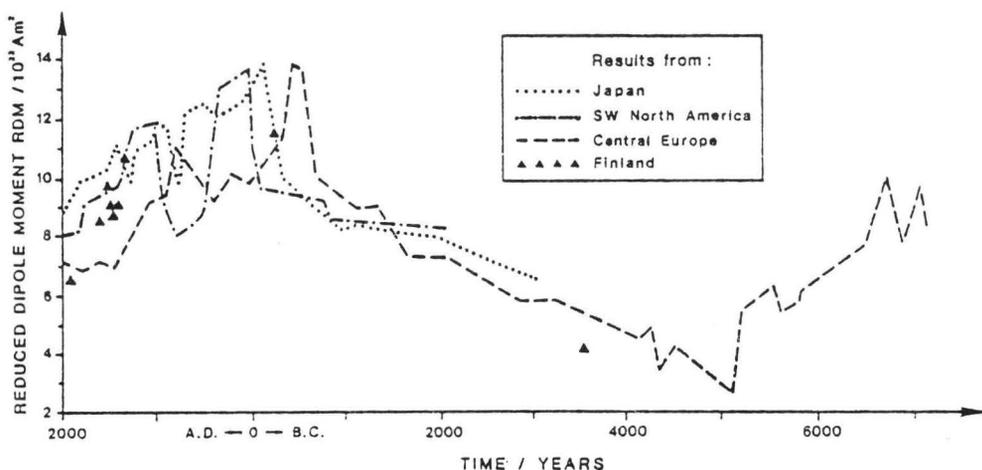


Fig. 1. Changes of the Reduced Dipole Moment (RDM) of the Earth's magnetic field as measured at different sites in the world. ▲ = First archaeomagnetic results in Finland.

quired after reheating in the laboratory field, a ratio sample with the value acquired after reheating in the laboratory field, a ratio of the ancient and laboratory fields is obtained and the ancient intensity can be determined. In this study we applied the standard Thellier—Thellier double heating procedure for measuring the ancient intensities. All the intensity results are presented as Reduced Dipole Moments (RDM). The RDM values obtained in this study are in good agreement with those obtained in different parts of the world (Fig. 1). However, much more determinations are still needed in Finland before the archaeointensity curve can be used as a dating tool.

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